

Elrod Road Elementary School

Warren County, Kentucky

Warren County Schools sought to build a spectacular new school that would not only be an “instructional showcase” for Kentucky, but also set an example for energy efficient and sustainable school facilities.

Sherman Carter Barnhart and CMTA Consulting Engineers chose to pursue DESIGNED TO EARN THE ENERGY STAR to ensure the building design would meet and exceed Warren County Schools' goal to reduce annual utility costs and become an ENERGY STAR facility during the first and subsequent years of building operation.

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|------------------------------------|---------------------------------|
| Energy Use Intensity (EUI): | 73 kBtu/sf/yr |
| Percent CO ₂ reduction: | 56 % |
| ENERGY STAR design rating: | 98 |
| Energy Savings: | 7,630,000 kBtu |
| CO ₂ Savings: | 461 Metric Tons CO ₂ |
| Space type: | Elementary School |
| Total Square Footage: | 80,904 SF |
| Energy Cost/SF: | \$0.47/SF |

High Performance Features:

- High performance Insulated Concrete Form building envelope.
- R-32 roof insulation.
- North/South classroom orientation.
- Daylighting clerestory with reflective light shelves.
- Tubular daylighting devices.
- Geothermal HVAC with distributive pumping and hot water generation.
- Monitoring controls with occupancy, motion, and CO₂ sensors.
- Alternate renewable energy source infrastructure. Future “plug & play” solar panel installation if budget permits.
- ENERGY STAR® rated kitchen equipment.
- Elimination of Type I kitchen exhaust hood - combi ovens used in lieu of tilting skillets and fryers.
- Operation and maintenance plan
- Building functions as a teaching tool - students monitor building performance and learn environmental stewardship.



DESIGNED
TO EARN THE
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The estimated energy performance for this design meets US EPA criteria. The building will be eligible for ENERGY STAR after maintaining superior performance for one year.